Tracking NPS Management Measure (MM) Implementation

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Why Track NPS Management Measure (MM) Implementation?

- Basic Question: How effective is the CA NPS Program (e.g, regulatory actions, education and outreach, funding) in improving water quality and maintaining beneficial uses?

- Use MM implementation as a surrogate in the "short term" for determining CA NPS Program effectiveness. Have our efforts resulted in increased MM implementation and where?

- Use water quality information to determine "long term" effectiveness. Has increased implementation of MMs resulted in water quality improvements?

Why Track NPS Management Measure (MM) Implementation? (con't)

- Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) require implementation of MMs in six land use categories:
  1. Agriculture
  2. Forestry (Silviculture)
  3. Urban
  4. Marinas and Recreational Boating
  5. Hydromodification
  6. Wetlands, Riparian Areas, and Vegetated Treatment Systems

- The State is committed to implementing the 61 NPS MMs by 2013 consistent with Federal Administrative Guidance.

Definition of Management Measure

- **Management Measure (MM)** – defined in section 6217 of CZARA as economically achievable measures to control the addition of pollutants to our coastal waters, which reflect the greatest degree of pollutant reduction achievable through the application of the best available NPS pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives.

Definition of Management Practice (MP)

Management Practice (MP) – activities that include, but are not limited to, structural and non-structural (operational) controls which may be applied before, during and after pollution producing activities to eliminate or reduce the generation of NPS discharges and the introduction of pollutants into receiving waters.

Successful MP Implementation

Successful MP implementation typically requires:

- Adaptation to site-specific or regional-specific conditions;
- Monitoring to assure that practices are properly applied and are effective in attaining and maintaining water quality standards;
- Immediate mitigation of a problem where the practices are not effective; and
- Improvement of MP implementation or implementation of additional MPs when needed to resolve a deficiency.

1. Agriculture Management Measures

A. Erosion and Sediment Control

B. Confined Animal Facilities Wastewater and Runoff

C. Nutrient Management

D. Pesticide Management

E. Grazing Management

F. Irrigation Water Management

G. Education/Outreach

2. Forestry (Silviculture) Management Measures

A. Preharvest Planning

B. Streamside Management Areas

C. Road Construction/Reconstruction

D. Road Management

E. Timber Harvesting

F. Site Preparation and Forest Regeneration

G. Fire Management

H. Revegetation of Disturbed Areas

I. Forest Chemical Management

J. Wetlands Forest

K. Postharvest Evaluation

L. Education/Outreach

3. Urban Management Measures

3.1 Runoff from Developing Areas

A. Watershed Protection

B. Site Development

C. New Development

3.2 Runoff from Construction Sites

A. Construction Site Erosion and Sediment Control

B. Construction Site Chemical Control

3.3 Runoff from Existing Development

A. Existing Development

3.4 On-site Disposal Systems

A. New On-site Disposal Systems

B. Operating On-site Disposal Systems

3. Urban Management Measures (con't)

3.5 Transportation Development: Roads, Highways, and Bridges

A. Planning, Siting, and Developing Roads and Highways

B. Bridges

C. Construction Projects

D. Construction Site Chemical Control

E. Operation and Maintenance

F. Road, Highway, and Bridge Runoff Systems

3.6 Education/Outreach

A. Pollution Prevention/Education--General Sources

4. Marinas and Recreational Boating Management Measures

4.1 Assessment, Siting, and Design

A. Water Quality Assessment
B. Marina Flushing
C. Habitat Assessment
D. Shoreline Stabilization
E. Storm Water Runoff
F. Fuel Station Design
G. Sewage Facilities
H. Waste Management Facilities

4.2 Operation and Maintenance

A. Solid Waste Control
B. Fish Waste Control
C. Liquid Material Control
D. Petroleum Control
E. Boat Cleaning and Maintenance
F. Maintenance of Sewage Facilities
G. Boat Operation

4.3 Education/Outreach

A. Public Education

5. Hydromodification Management Measures

5.1 Channelization and Channel Modification

A. Physical and Chemical Characteristics of Surface Waters

B. Instream and Riparian Habitat Restoration

5.2 Dams

A. Erosion and Sediment Control

B. Chemical and Pollutant Control

C. Protection of Surface Water Quality and Instream and Riparian Habitat

5.3 Streambank and Shoreline Erosion

A. Eroding Streambanks and Shorelines

5.4 Education/Outreach

A. Educational Programs

6. Wetlands, Riparian Areas, and Vegetated Treatment Systems Management Measures

A. Protection of Wetlands and Riparian Areas

B. Restoration of Wetlands and Riparian Areas

C. Vegetated Treatment Systems

D. Education/Outreach

MM 1A - Erosion and Sediment Control

- Apply the erosion component of a conservation management system as defined in the Field Office Technical Guide of the U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS) to minimize the delivery of sediment from agricultural lands to surface waters, ***or***

- Design and install a combination of management and physical practices to settle the settleable solids and associated pollutants in runoff delivered from the contributing area for storms of up to a 25-year, 24-hour frequency.

Management Measure 1A - Erosion and Sediment Control Management Practices

a. Conservation cover
b. Conservation cropping sequence
c. Conservation tillage
d. Contour farming
e. Contour orchard and other fruit area
f. Cover and green manure crop
g. Critical area planting
h. Crop residue use
i. Delayed seed bed preparation
j. Diversion
k. Field border
l. Filter strip
m. Grade stabilization structure
n. Grassed waterway
o. Grasses and legumes in rotation
p. Sediment basins
q. Contour stripcropping
r. Field strip-cropping
s. Terrace
t. Water and sediment control basin

Tools for Tracking Implementation of MMs

A. Policies and Existing Programs

To help assess whether state or local policies and programs require, encourage, or even discourage or prohibit implementation of specific management measure requirements.

Tools for Tracking Implementation of MMs (con't)

B. Surveys

Surveys generally provide better data about implementation than analyses of programs, but because surveys generally only capture what selected participants describe as implementation, they should not be considered substitutes for field data. Note that surveys are only suggested where they are considered an appropriate tracking tool.

Tools for Tracking Implementation of MMs (con't)

C. Field Data

The best evidence that programs are working to achieve implementation of the management measures are data collected in the field, but cost and logistical considerations make complete tracking impossible in a state as large as California. Even statistically based sampling can be infeasible in some cases due to cost, time, and staffing limitations. Key to the development of cost-effective, field-based tracking efforts is formulation of clear study objectives that include tight definitions of the target populations.

Example of Tracking Implementation of MM 1A - Sediment Control

Policies and Existing Programs -

- Regulatory authorities - waste discharge requirements (WDRS) or waivers of WDRs in place consistent with the NPS Implementation and Enforcement Policy (NPS Policy).
- Educational and outreach - programs in place that encourage and assist in MM implementation (e.g., resource conservation districts, funding sources).
- Indicator - "Yes" or "No"

Example of Tracking Implementation of MM 1A - Sediment Control (con't)

Surveys -

- Use information provided by the dischargers as part of reporting requirements of WDR or waiver of WDRs (e.g, MM/MPs implemented, location, and acres affected).
- Surveys performed by federal, other State, or local agencies (e.g, MM/MPs implemented, location, and acres affected).
- Indicators - MMs/MPs implemented, location, and acres affected

Example of Tracking Implementation of MM 1A - Sediment Control (con't)

Field Data -

- Field verification of consistency with information provided in regulatory reporting requirements. Are the MMs/MPs in place, maintained, and operated appropriately?
- Indicators - MM/MPs actually implemented (location and area affected), status with respect to operation and maintenance

Where Do We Go From Here?

- Apply MM/MP Tracking Tools for each land use category through IACC Subcommittee and TMC contributions.
- Determine and assess “universe” of implementation information currently available and establish “baseline” conditions.
- Develop and implement a MM/MP Tracking Strategy to:
  - Determine most effective method to analyze extent of MM/MP implementation;
  - Identify additional data requirements; and
  - Identify methods to retrieve, store, and analyze information.